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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,117	03/02/2004	Robert Geoffrey Ward	10031365-1	2646

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AGILENT TECHNOLOGIES, INC.
Legal Department, DL 429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER	
ALIA, CURTIS A	

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
10/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/791,117	WARD, ROBERT GEOFFREY	
	Examiner	Art Unit	
	Curtis Alia	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 2a and 2b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 2, 8, and 11 are objected to because of the following informalities:

For claim 2, the phrase "the plurality of processing elements" should be changed to --- the plurality of parallel processing elements --- as referred to in claim 1. Appropriate correction is required.

For claim 8, a device is claimed that depends from a system claim. It is suggested to change "device" to --- system ---.

For claim 11, a system is claimed that depends from a method claim. It is suggested to change "system" to --- method ---.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 17-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 17-24 are drawn to functional descriptive material NOT claimed as being encoded or stored on a computer readable medium. See MPEP 2106.01 [R-5] (Computer Related Nonstatutory Subject Matter).

Claim 17, while defining a computer readable medium, does not establish a physical connection between the functional descriptive material (program) with the computer readable medium. It is unknown whether the program is encoded or stored on the computer readable medium. Claims 18-24 claim a program, which is also non-statutory because there is no physical connection between the program and the computer that is executing that program.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 10-16, and 18-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claim 10, the term "the plurality of processing elements" has no antecedent basis, as it was not previously recited in any claim from which it depends. It is suggested to change "the plurality of processing elements" to --- a plurality of processing elements ---.

For claim 18, the term "the plurality of processing elements" has no antecedent basis, as it was not previously recited in any claim from which it depends. It is suggested to change "the plurality of processing elements" to --- a plurality of processing elements ---.

For claims 18, a program is claimed that depends from a computer readable medium claim. It is suggested to correct this issue. The same is true for claims 19-24, as they all depend from claim 17.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 9-10, and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Bernstein et al. (US Patent No. 5,999,529).

For claims 1 and 2, Bernstein discloses an asynchronous transfer mode system comprising a circular buffer for storing ATM data, the ATM data comprising information divided into cells (see column 3, lines 66-67, FIFO buffer receives ATM cells from the ATM network), a plurality of parallel processing elements configured to analyze the ATM cells and determine a cell type (see column 2, lines 61-66, VoA processing modules at least one type of VoA adaptation layer type), wherein ATM adaptation layer 2 cells and AAL 5 cells are reassembled in real time (see column 4, lines 63-67, modules can be replaced to support segmentation and reassembly of other adaptation layer types), wherein the circular buffer communicates with the plurality of processing elements simultaneously (see column 4, lines 2-5, buffering allows multiple processing modules to be used in parallel to yield a higher throughput and high degree of scalability).

For claims 9 and 10, Bernstein discloses a method for an ATM system comprising providing ATM data to a circular buffer, the data comprising information divided into cells (see column 3, lines 66-67, FIFO buffer receives ATM cells from the ATM network), storing the ATM data in the circular buffer (see column 3, lines 66-67), analyzing the ATM cells to determine a cell type (see column 2, lines 61-66, VoA processing modules at least one type of VoA adaptation layer type), wherein the AAL 2 cells and AAL 5 cells are reassembled in real time (see column 4, lines 63-67, modules can be replaced to support segmentation and reassembly of other adaptation layer types), and simultaneously communicating between the circular buffer and the plurality of processing elements (see column 4, lines 2-5, buffering allows multiple processing modules to be used in parallel to yield a higher throughput and high degree of scalability).

For claims 17 and 18, Bernstein discloses an ATM data reassembly system comprising logic for providing ATM data to a circular buffer, the data comprising information divided into cells (see column 3, lines 66-67, FIFO buffer receives ATM cells from the ATM network), logic for storing the ATM data in the circular buffer (see column 3, lines 66-67), logic for analyzing the ATM cells to determine a cell type (see column 2, lines 61-66, VoA processing modules at least one type of VoA adaptation layer type), wherein the AAL 2 cells and AAL 5 cells are reassembled in real time (see column 4, lines 63-67, modules can be replaced to support segmentation and reassembly of other adaptation layer types), and logic for simultaneously communicating between the circular buffer and the plurality of processing elements (see column 4, lines 2-5, buffering allows multiple processing modules to be used in parallel to yield a higher throughput and high degree of scalability).

Claim Rejections - 35 USC § 103

8. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 3-4, 11-12, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernstein in view of Suzuki et al. (US Patent No. 6,687,250).

For claims 3 and 4, Bernstein teaches all of the limitations with the exception of a fragmentation table configured to receive and store data fragments associated with an ATM cell and a buffer manager configured to accumulate the data fragments and assemble the data fragments into a frame. Suzuki, from the same field of endeavor teaches of a frame processor comprising a frame storage means for storing data fragments from received ATM cells (see column 1, lines 48-51) and a cell reassembly means for processing and assembling the cell data into a frame (see column 1, lines 51-58). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to employ a frame storage and assembler into the system of Bernstein. The data fragmentation and reassembling as taught by Suzuki can be

implemented into the system of Bernstein by including a frame storage part (figure 1, items 13A-C) and a frame processing part (figure 1, item 14). The motivation for combining these teachings is that a priority decision-making scheme is added to the segmentation and reassembly process to assure quality of service.

For claims 11 and 12, Bernstein teaches all of the limitations with the exception of receiving and storing data fragments associated with an ATM cell in a fragmentation table and accumulating the data fragments in a buffer manager and assembling the data fragments into a frame. Suzuki, from the same field of endeavor teaches of a frame processor comprising a frame storage means for storing data fragments from received ATM cells (see column 1, lines 48-51) and a cell reassembly means for processing and assembling the cell data into a frame (see column 1, lines 51-58). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to employ a frame storage and assembler into the system of Bernstein. The data fragmentation and reassembling as taught by Suzuki can be implemented into the system of Bernstein by including a frame storage part (figure 1, items 13A-C) and a frame processing part (figure 1, item 14). The motivation for combining these teachings is that a priority decision-making scheme is added to the segmentation and reassembly process to assure quality of service.

For claims 19 and 20, Bernstein teaches all of the limitations with the exception of logic for receiving and storing data fragments associated with an ATM cell in a fragmentation table, logic for accumulating the data fragments in a buffer manager, and logic for assembling the data fragments into a frame. Suzuki, from the same field of endeavor teaches of a frame processor comprising a frame storage means for storing data fragments from received ATM cells (see

column 1, lines 48-51) and a cell reassembly means for processing and assembling the cell data into a frame (see column 1, lines 51-58). Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to employ a frame storage and assembler into the system of Bernstein. The data fragmentation and reassembling as taught by Suzuki can be implemented into the system of Bernstein by including a frame storage part (figure 1, items 13A-C) and a frame processing part (figure 1, item 14). The motivation for combining these teachings is that a priority decision-making scheme is added to the segmentation and reassembly process to assure quality of service.

11. Claims 5-8, 13-16, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernstein in view of Suzuki as applied to claims 3-4, 11-12, and 19-20 above, and further in view of VanDervort et al. (US Patent No. 5,761,191).

For claims 5-8, Bernstein and Suzuki teach all of the limitations with the exception of a statistics memory configured to store statistics associated with the cells, wherein the statistics are chosen from an idle cell, an unassigned cell, an operation and maintenance cell, an AAL2 cell, an AAL5 cell, a header error correction error cell, a frame count, a byte count, congestion information, AAL5 CRC error count, and resource management cell count, wherein the statistics are gathered for each unique VPI/VCI cell stream, and the statistics are periodically provided to a processor for display. VanDervort, from the same field of endeavor, teaches the provision of collecting statistical data an ATM network, wherein the statistics are gathered based on a number of parameters (see column 16, table 1), wherein the statistics are collected and maintained based on cells received with respect to each virtual connection (see column 15, lines 16-19), and that the host processor controlling the statistics gathers the information at regular intervals (see

column 15, lines 35-37) and outputs the information to a user interface (see column 15, lines 42-46). Table 1 shows many of the statistics gathered by the statistics gathering system of VanDervort, including two CLP bits (indicating whether the cell is an idle cell or an unassigned cell if a VCI/VIP is a null value), a plurality of OAM cell statistics, AAL3/4 (replaceable by AAL2 statistics for AAL2 SARs) and AAL5 statistics, HEC error statistics, congestion information, AAL3/4 CRC error counts (capable of collecting AAL5 CRC error counts instead), and RM cell information. Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to combine statistics gathering capabilities to an ATM segmentation and reassembly system. This can be done by adding a content addressable memory (CAM) coupled to a statistics processor and a timer, and also a user interface for displaying the statistical information. The motivation for combining these teachings is that measuring and collecting aggregate network utilization data is used to determine ways of improving the performance of the network for specific types of cells.

For claims 13-16, Bernstein and Suzuki teach all of the limitations with the exception of a statistics memory configured to store statistics associated with the cells, wherein the statistics are chosen from an idle cell, an unassigned cell, an operation and maintenance cell, an AAL2 cell, an AAL5 cell, a header error correction error cell, a frame count, a byte count, congestion information, AAL5 CRC error count, and resource management cell count, wherein the statistics are gathered for each unique VPI/VCI cell stream, and the statistics are periodically provided to a processor for display. VanDervort, from the same field of endeavor, teaches the provision of collecting statistical data an ATM network, wherein the statistics are gathered based on a number of parameters (see column 16, table 1), wherein the statistics are collected and maintained based

on cells received with respect to each virtual connection (see column 15, lines 16-19), and that the host processor controlling the statistics gathers the information at regular intervals (see column 15, lines 35-37) and outputs the information to a user interface (see column 15, lines 42-46). Table 1 shows many of the statistics gathered by the statistics gathering system of VanDervort, including two CLP bits (indicating whether the cell is an idle cell or an unassigned cell if a VCI/VIP is a null value), a plurality of OAM cell statistics, AAL3/4 (replaceable by AAL2 statistics for AAL2 SARs) and AAL5 statistics, HEC error statistics, congestion information, AAL3/4 CRC error counts (capable of collecting AAL5 CRC error counts instead), and RM cell information. Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to combine statistics gathering capabilities to an ATM segmentation and reassembly system. This can be done by adding a content addressable memory (CAM) coupled to a statistics processor and a timer, and also a user interface for displaying the statistical information. The motivation for combining these teachings is that measuring and collecting aggregate network utilization data is used to determine ways of improving the performance of the network for specific types of cells.

For claims 21-24, Bernstein and Suzuki teach all of the limitations with the exception of a statistics memory configured to store statistics associated with the cells, wherein the statistics are chosen from an idle cell, an unassigned cell, an operation and maintenance cell, an AAL2 cell, an AAL5 cell, a header error correction error cell, a frame count, a byte count, congestion information, AAL5 CRC error count, and resource management cell count, wherein the statistics are gathered for each unique VPI/VCI cell stream, and the statistics are periodically provided to a processor for display. VanDervort, from the same field of endeavor, teaches the provision of

collecting statistical data an ATM network, wherein the statistics are gathered based on a number of parameters (see column 16, table 1), wherein the statistics are collected and maintained based on cells received with respect to each virtual connection (see column 15, lines 16-19), and that the host processor controlling the statistics gathers the information at regular intervals (see column 15, lines 35-37) and outputs the information to a user interface (see column 15, lines 42-46). Table 1 shows many of the statistics gathered by the statistics gathering system of VanDervort, including two CLP bits (indicating whether the cell is an idle cell or an unassigned cell if a VCI/VIP is a null value), a plurality of OAM cell statistics, AAL3/4 (replaceable by AAL2 statistics for AAL2 SARs) and AAL5 statistics, HEC error statistics, congestion information, AAL3/4 CRC error counts (capable of collecting AAL5 CRC error counts instead), and RM cell information. Thus, it would have been obvious to a person having ordinary skill in the art at the time of the invention to combine statistics gathering capabilities to an ATM segmentation and reassembly system. This can be done by adding a content addressable memory (CAM) coupled to a statistics processor and a timer, and also a user interface for displaying the statistical information. The motivation for combining these teachings is that measuring and collecting aggregate network utilization data is used to determine ways of improving the performance of the network for specific types of cells.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takahashi et al. (US Patent No. 5,550,978), Daniel et al. (US Patent No. 5,920,561), Cole (US Patent No. 5,956,344), Mills et al. (US Patent No. 6,088,355), Feldman et al. (US Patent No. 6,148,000), Dekeyser (US Patent Publication No. 2001/0024453), Duwuru (US Patent

Publication No. 2002/0141450), Shenoi et al. (US Patent No. 6,490,296), Brueckheimer et al. (US Patent No. 6,574,224), Lee et al. (US Patent Publication No. 2003/0152076), Song (US Patent No. 6,621,821), Fraser et al. (US Patent No.6,707,819), Lee et al. (US Patent No.7,054,320).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis Alia whose telephone number is (571) 270-3116. The examiner can normally be reached on Monday through Friday, 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CAA

DORIS H. TO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600